CLAIMS

What is Claimed Is:

1. A method of detecting a reproducing signal using an optical detection device to receive an optical signal reflected from an optical recording medium and dividing the received signal into multiple signals corresponding to sections of the optical detection device which are arranged in a matrix with rows in a tangential direction and columns in a radial direction of the optical recording medium, comprising:

selecting signals which are less degraded than other signals, from among the multiple signals corresponding to sections of the optical detection device, on the basis of data conditions recorded on the optical recording medium, interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the optical recording medium, and/or various system states; and

obtaining a reproducing signal from the selected signals by compensating for an amount of the interference caused by the data conditions, the interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the recording medium, and/or various system states.

2. The method of claim 1, wherein the selecting of the signals which are less degraded than other signals comprises selecting a combination of signals corresponding to sections of the optical detection device arranged in the radial direction based upon the signal

interference caused by the data conditions or the interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the optical recording medium.

3. The method of claim 1, wherein the selecting of the signals which are less degraded than other signals comprises selecting a combination of signals corresponding to sections of the optical detection device arranged diagonally based upon a signal interference caused by defocusing.

4. The method of claim 1, wherein the selecting of the signals which are less degraded than other signals comprises selecting a combination of signals corresponding to sections of the optical detection device arranged in the tangential direction based upon a signal interference caused by detracking.

5. The method of claim 1, wherein the selecting of the signals which are less degraded than other signals comprises selecting a combination of signals corresponding to sections of the optical detection device arranged in the tangential direction based upon a signal interference caused by radial tilting.

6. The method of claim 1, wherein the selecting of the signals which are less degraded than other signals comprises selecting a combination of signals corresponding to

sections of the optical detection device arranged in the radial direction based upon a signal interference caused by tangential tilting.

7. The method of claim 1, wherein the obtaining of the reproducing signal from the selected signals comprises equalizing the selected signals according to an amount of the signal interference caused by the data conditions, the interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the optical recording medium, and/or the various system states.

8. The method of claim 1, further comprising using the reproducing signal to increase a defocusing margin of a system.

9. The method of claim 1, further comprising using the reproducing signal to increase a detracking margin of a system.

10. The method of claim 1, further comprising using the reproducing signal to increase a radial tilting margin of a system.

11. The method of claim 1, further comprising using the reproducing signal to increase a tangential tilting margin of a system.

12. A method of detecting a reproducing signal using an optical detection device including a photodetection to receive an optical signal reflected from an optical recording medium and to divide the received signal into multiple signals, comprising:

detecting first output signals of the optical detection device that correspond to a combination of signals corresponding to sections of the photodetector arranged in a tangential direction, outputs corresponding to a combination of signals corresponding to sections of the photodetector arranged in a radial direction, and/or outputs corresponding to a combination of signals corresponding to sections of the photodetector arranged diagonally; and

detecting a good signal from among second output signals obtained by reproducing the first output signals, as the reproducing signal.

13. The method of claim 12, further comprising controlling the good signal the reproducing signal in the step (b), by detecting data conditions recorded on the optical recording medium, an interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the recording medium, and/or various system states.

14. A device to detect a reproducing signal, comprising:

an optical detection device comprising a photodetector to receive an optical signal reflected from an optical recording medium and to divide the received signal into multiple signals;

a detector to detect outputs of the optical detection device

corresponding to a combination of signals corresponding to sections of the photodetector arranged in a tangential direction, outputs corresponding to a combination of signals corresponding to sections of the photodetector arranged in a radial direction, and/or outputs corresponding to a combination of signals corresponding to sections of the photodetector arranged diagonally;

a control unit to provide a selection control signal and a compensation signal based upon results of detection of data conditions recorded on the optical recording medium, an interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the recording medium, and/or various system states; and

a compensator to select some of the outputs of the optical detection device provided via the detector in response to the selection control signal, and to adaptively compensate for the selected outputs in response to the compensation signal.

15. The device of claim 14, wherein the compensator comprises:

a selector to select some of the outputs of the optical detection device provided via the detector in response to the selection control signal; and

an equalizer to adaptively equalize the selected outputs of the optical detection device in response to the compensation signal.

16. A device to detect a reproducing signal, comprising:

an optical detection device comprising a photodetector to receive an optical signal reflected from an optical recording medium and to divide the received signal into multiple signals;

a detector to detect outputs of the optical detection device corresponding to a combination of signals corresponding to sections of the photodetector arranged in a tangential direction, outputs corresponding to a combination of signals corresponding to sections of the photodetector arranged in a radial direction, and/or outputs corresponding to a combination of signals corresponding to sections of the photodetector arranged diagonally;

an equalizer to equalize and reproduce each of the outputs of the detector; and

a control unit to adaptively control an equalization amount of the equalizer based on results of detection of data conditions recorded on the optical recording medium, an interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the optical recording medium, and/or various system states, and to provide a good signal, from among the output signals of the equalizer, as the reproducing signal.

17. A method of detecting a reproducing signal comprising:

reflecting an optical signal from an optical recording medium;

dividing said optical signal into a plurality of divided signals;

adding a first at least two divided signals from said plurality of divided signals to form a first output signal;

adding a second at least two divided signals from said plurality of divided signals to form a second output signal, wherein said first output signal differs from said second output signal; and

selecting said first output signal or said second output signal as the reproducing signal, wherein the reproducing signal is the least degraded of said first output signal and said second output signal.

18. The method of claim 17, wherein said dividing of said optical signal into said plurality of divided signals comprises dividing said optical signal into sections in a radial direction of the optical recording medium, and said adding of said first at least two divided signals and said adding of said second at least two divided signals each comprise adding divided signals in the radial direction.

19. The method of claim 17, wherein said dividing of said optical signal into said plurality of divided signals comprises dividing said optical signal into sections in a tangential direction of the optical recording medium, and said adding of said first at least two divided signals and said adding of said second at least two divided signals each comprise adding divided signals in the tangential direction.

20. The method of claim 17, wherein said dividing of said optical signal into said plurality of divided signals comprises dividing said optical signal into sections in a diagonal direction of said optical recording medium, and said adding of said first at least two divided

signals and said adding of said second at least two divided signals each comprise adding divided signals in the diagonal direction.

21. The method of claim 17, further comprising equalizing the reproducing signal.

22. A method of detecting a reproducing signal comprising:

outputting signals from an optical detection device in response to a reflected signal from an optical recording medium; and

selecting ones of the outputted signals that are least degraded to detect the reproducing signal.

23. The method of claim 22, further comprising reproducing the selected signals based upon data conditions recorded on the optical recording medium.

24. A device to detect a reproducing signal, comprising:

a detector to divide an optical signal reflected from an optical recording medium into a plurality of divided signals;

a first adding unit to add a first at least two divided signals from said plurality of divided signals to form a first output signal;

a second adding unit to add a second at least two divided signals from said plurality of divided signals to form a second output signal, wherein said first output signal differs from said second output signal; and

a selecting unit to select said first output signal or said second output signal as the reproducing signal, wherein the reproducing signal is the least degraded of said first output signal and said second output signal.

25. The device of claim 24, further comprising an equalizing unit to equalize the reproducing signal.

26. The device of claim 25, wherein said detector divides said optical signal into sections in a diagonal direction of the optical disc, and said first adding unit and said second adding unit add divided signals in the diagonal direction.

27. The device of claim 25, wherein said detector divides said optical signal into sections in a radial direction of the optical disc, and said first adding unit and said second adding unit add divided signals in the radial direction.

28. The device of claim 25, wherein said detector divides said optical signal into sections in a tangential direction of the optical disc, and said first adding unit and said second adding unit add divided signals in the tangential direction.

29. The device of claim 28, further comprising a control unit to control an equalization amount of the equalizing unit based on data conditions recorded on the optical recording medium, an interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the optical recording medium, and/or various system states.

30. The device of claim 29, wherein said detector divides said optical signal into four divided signals.

31. The device of claim 30, wherein said detector divides said optical signal into eight divided signals.

32. A device to detect a reproducing signal, comprising:

a pickup unit to detect information recorded on an optical recording medium and to project a beam emitted from a light source to the optical recording medium;

a detector to divide an optical signal reflected from the optical recording medium into a plurality of divided signals;

a first I/V converter to convert said divided signals from divided signals into divided voltage signals;

a first adding unit to add a first at least two divided voltage signals from said plurality of divided voltage signals to form a first output signal;

a second adding unit to add a second at least two divided voltage signals from said plurality of divided voltage signals to form a second output signal, wherein said first output signal differs from said second output signal;

a selecting unit to select said first output signal or said second output signal as a reproducing signal, wherein the reproducing signal is the least degraded of said first output signal and said second output signal; and

a system state detector to detect defocusing, detracking and/or tilting, data conditions and an interference between optical signals reflected/diffracted from pits in close proximity to each other and from adjacent tracks on the recording medium, and to provide a selection control signal to the selecting unit to select the least degraded of said first output signal and said second output signal.